

lowered, and a drain formed round the walls; a new eastern window, into which painted glass by Mr. Willement has been introduced; a new floor; massive oak seats; a new stone pulpit, with handsome altar table, stalls, and reading desk. Altogether the effect of this part is very pleasing, and gives fair evidence of the interesting result which would attend a more complete restoration of the cathedral itself.

Soon after the completion of this work, having been appointed hon. diocesan architect, I was associated with Mr. Pritchard in the future work of restoration. The late dean then addressed the laity of this diocese, as he had previously done the clergy, in language that may well bear repeating, and which may serve as a model for such appeals. He said, "It is to stay the ravages of the great spoiler that I now appeal with confidence to public generosity, to individual taste, and, above all, to national piety. Our desire now is to carry on the work of improvement to the cathedral at large. We dare not indeed anticipate an immediate restoration of all those parts even now in decay so beautiful; but we do cherish a confident hope that a sufficient sum may be raised to enable us to restore at once that portion of the fabric now covered in, to a state more worthy of its sacred use, and not wholly unworthy of its ancient purity and architectural interest. To rescue a cathedral (and that the church of the oldest bishop's see in the country), from dishonour and reproach; to raise this daughter of Zion from the dust, and to remove the shame which past neglect and injury have heaped upon her head, is a deed which requires no aid from eloquence. We will not pause to bewail, much less palliate former years of spoil and desolation, nor stop to lament the barbarous work of the last century; but trusting that the God of heaven will prosper us, we will proceed as did the holy Bishop Urban in his requisition for aid."

Shortly after this appeal the diocese of Landaff lost the services of her revered and zealous dean, Bruce Knight. He bequeathed this work, on which his heart was set, to one not less learned and hardly less interested than himself,—to his successor, Dean Coneybeare. This gentleman issued a fresh address, and called a county meeting, which was fully and influentially attended, and a considerable sum subscribed.

Working from the east, the following works have been already done in the cathedral itself.

The floor of the presbytery and side aisles has been lowered to its original level (about 2 feet 3 inches); the mass of stonework which choked up the arches of the choir and presbytery has been removed; the reredos, or screen, and Bishop Teilan's tomb brought into view; the whole of the plaster knocked off the walls up to the level of the Italian cornice, thus exposing the fine Norman chancel arch, the curious Norman remain in the south wall, and the Norman string running under the clerestory. All these interesting portions were lost sight of in the "stately and beautiful Roman ruins;" and the stonework of the Norman arch, and of the piers and arches, has been scraped and repaired.

The ground has been cleared away from the walls; they have had the rough cast removed, and are pointed with dark mortar. Four new windows of "decorated character" have been introduced. A new window is being introduced in the north wall of aisle, and two new windows at the east end of the north and south aisles.

An open decorated parapet has been introduced over the wall of south aisle, and a close one is now in progress in the north wall.

The wooden Ionic fittings of the choir for the present remain untouched; and, as I before said, are well worth the attention of architects about to build or furnish.

The available funds at the disposal of the dean and committee will, we hope, enable us to put a new roof over the whole of the presbytery, choir, and nave, as far as the Roman inclosure; the material to be oak and the covering lead. There is no sign of the cathedral having had a groined roof, and as the timbers must show, we have considered that such a roof as that over the nave at Ely would be most effective and most in character with the Early English architecture. We propose to introduce a large arch between the choir and presbytery; that an arch originally existed in this place we have no doubt from the break

in the walls, and from the fact of our having found plinths at the two angles of the wall, with bases and shafts walled in, which would quite answer to this situation. We have not thought it right, in the absence of any remains of the Norman clerestory in the presbytery, to restore in that style; or to commit the solecism of putting early work over later. We have thought that the "decorated" period of the piers, arches, and screen of the presbytery, should be our authority for all the new work in this part. The large arch, with the piers and arch mouldings, will be of this period; and the clerestory windows and triforium (for the gallery will be continued) of similar character. (Those who have seen Carlisle will, no doubt, remember the rich and beautiful effect of the "decorated" clerestory of the choir, an example which we have taken as our authority). The "handsome freestone window" over the Norman arch, described by Browne Willis, no doubt existed, for we find walled in, in this situation, four mullions, which may well have belonged to a five-light decorated window. We therefore re-introduce such a window, which will open into the Lady's Chapel. The tomb of St. Teilan will be restored, and a doorway, of corresponding character, introduced immediately adjoining it, leading from the presbytery into the Chapter-house. The perpendicular tomb on the opposite side (stated to be Bishop Marshall's) will be restored. Eventually, we anticipate the restoration of the reredos and sedile, and the introduction of screens on the north side to inclose the presbytery. There are the remains of a small floor-jamb attached to the tomb of Bishop Marshall; and the difference in the level of the plinth calls for a step at this spot. (The same thing exists on the opposite side, shewing that the level of the side aisles was six inches below the platform, immediately in front of the altar steps.)

We purpose that the large blank space adjoining the Norman window in the south wall, should be relieved and decorated by an encaustic painting of St. Teilan, the second bishop (similar in effect to those figures painted on the walls of the Temple Church, by Mr. Willement).

The aisle roofs will be made good, at least up to the extent of the presbytery: we hope at the same time to carry them on to the western inclosure.

The fittings of the choir and a proper screen at its west-end, must remain a matter for present hope and future consideration. We have thought it of first importance that the shell or structural part of the present inclosure should be restored and made good, before we completed the fittings or decorations of any one part. Having the roofs and clerestory made good up to the modern inclosure, we purpose completing the restoration of reredos, screens, &c., in the presbytery, and so working westward as funds will permit. On the south side of the Presbytery no difficulty occurs with the arrangement of the steps. It is evident, from the level of the screen and of the vedile, that the upper stage extended thus far; and the level of the doorways into the north and south aisles determines the level of the lower platform. These steps correspond with the description given by Browne Willis; but a difficulty occurs, from the fact of the bases of the piers on the north side being considerably lower than the corresponding ones on the south side. To preserve those bases perfect, keeping round them the original line of paving, and at the same time preserving an approach to the north doorway in the altar-screen, it becomes necessary to return the steps in a curious manner. The irregular effect of this would, I fear, be unpleasant and unusual. If, however, they are carried entirely across, the original bases of the columns and piers adjoining the north end of altar-screen must be covered over, and a new and false base be introduced at this level. This, clearly, cannot be restoration.

T. H. WYATT.

A QUERY.—Sir,—Will you allow me to ask one of your mathematical readers to give a simple formula for ascertaining the surface of a curvilinear cone, or its difference from a right cone, having the same base and altitude? The object sought is a ready mode of taking the dimensions.—A. P. M.

LEAVES OUT OF A FRENCH BOOK: FOR THE BENEFIT OF ENGLISH WORKMEN.*

OUR readers are doubtless acquainted with a decree of the Provisional Government of France, which suppresses under-contracting (*le marchandage*), and shortens the working day by one hour. We have seen with deep regret the interference of the public authorities in questions which can only be determined by the natural play of competition, and into which the regulations of the law can only bring trouble and confusion. There is no power on earth which can succeed in confining and constraining circumstances of this kind. They take, their position of themselves, no barrier can arrest them, and in spite of all we can do they will continue their course in the midst of our impotent efforts. Obstacles may change the stream into a torrent, but cannot dry it up.

Let us put aside high-sounding senseless words, which excite the passions and mislead the judgment. It is not true that under-contracting is a trafficking or speculation (*une exploitation*) in one workman by another. It is the most legitimate use of intelligence and capital. It is a right which may be regulated, but which we cannot justly prohibit; and above all, one is lost in astonishment when the prohibition proceeds from a revolution effected in the name of liberty. When a man who has only two arms to set to work, possesses intelligence and capital enough to take the direction of a greater number, he cannot equitably be hindered from making of this excess of intelligence and capital the use which appears advantageous to him.

How do these things take place? The proprietor, assisted by the advice of his architect, applies to a general contractor, who undertakes for a stipulated sum the projected building as a whole. This general contractor turns over to particular master tradesmen acting as sub-contractors, the works belonging to their trades, and these, in their turn, intrust to skilful workmen, termed under-contractors (*marchandeurs*), parts of the work, which they also undertake by contract. In this we only perceive agreements between them of the same kind and precisely of similar character; we only see contractors of different degrees, who all act by virtue of the same right, and to the extent of their respective means. The *marchandeur* is in reality, and the decree recognises him as such, a contractor in the third degree.

These three different contractors all obtain by the men whom they employ a profit, which is justified by their labour. Their intervention, in fact, is *productive*; productive through the intelligence employed in the superintendence of the work, productive by the capital laid out in tools or in advances. This productiveness deserves reward, and it is untrue to assert that their profit is a barren impost levied on production. If you put down one you must put down all, and the workman must be brought into direct relation with the proprietor. The profit of the sub-contractor is not more legitimate than that of the *marchandeur*, the profit of the general contractor is not more legitimate than that of the sub-contractor. There can be no need, in speaking to intelligent and thoughtful workmen, to exhibit the impossibilities to which such a consequence would lead.

We have considered the justice of the case; let us now look at the interest of the workmen: will they be served by the measure in question? We do not think so; and the experience of by-gone facts confirms us in our conviction. The abolition of under-contracting (*marchandage*) places all workmen on the footing of perfect equality. So far well, and we would that it could be so; but are the workmen in truth equal in talent, equal in skill, equal in intelligence?

The measure then has necessarily for its result the favouring of inferior workmen; workmen unskilled, indolent, or dissipated; but it will turn upon these very men who have solicited it, and it will consummate their ruin. Now, what does the contractor do? He engages workmen at an abatement, we admit; but he addresses himself to workmen less active, less instructed, short of tools, and who only receive diminished wages, because they do not deserve to receive higher. He supplies the skill which they lack, by his own, he di-

* Translated from the *Moniteur des Architectes*.